



Clean Version of Amended Claims

1 6. A method for cleaning a metal contact region of a semiconductor
2 substrate, comprising exposing the metal contact region to hydrofluoric acid
3 *A3* vapor and water vapor in a process chamber held at temperature and
4 pressure conditions that are controlled to form on the substrate no more than
5 a sub-monolayer of reactants and products produced by the vapor as the
6 metal contact region is cleaned by the vapor.

1 9. The method of either of claims 7 or 8 wherein the process
2 chamber temperature and pressure conditions are controlled to form on the
3 substrate no more than a saturated monolayer of etch reactants and products
4 *A4* produced by the vapor as the oxide is etched by the vapor.

1 10. The method of either of claims 7 or 8 wherein the process
2 chamber temperature and pressure conditions are controlled to form on the
3 substrate no more than a sub-monolayer of etch reactants and products
4 produced by the vapor as the oxide is etched by the vapor.

1 15. The method of any of claims 12, 13, or 14 wherein the process
2 *A5* chamber temperature and pressure conditions are controlled to form on the
3 substrate no more than a sub-monolayer of etch reactants and products
4 produced by the vapor as the oxide is etched by the vapor.

1 23. The method of claim 22 wherein the process chamber
2 *A6* temperature and pressure conditions are controlled to form on the substrate
3 no more than a saturated monolayer of etch reactants and products produced
4 by the vapor as the oxide is etched by the vapor.

Alb
Cont

1 24. The method of claim 22 wherein the process chamber
2 temperature and pressure conditions are controlled to form on the substrate
3 no more than a sub-monolayer of etch reactants and products produced by
4 the vapor as the oxide is etched by the vapor.
